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The Students of Worcester Polytechnic Institute

The Tech News

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Opposition To Planning Model Emerging In Faculty

by Glenn White

A reaction in opposition to the Faculty Planning Committee's proposed model seems to be developing among the Tech faculty. The special meeting of the faculty last Wednesday afternoon, called to discuss the Planning Committee's Model, revealed deep doubts about the model in many minds and suggested that the future of the Model was doubtful.

The meeting was called by petition of the faculty. The first time in Tech's history a meeting has been called by petition.. The attendance at the meeting seemed to be predominately from the "conservative" side of the faculty. The meeting was disorganized and consisted of questions and comments made to the Planning Committee and replies from members of the Planning Committee.

One segment of the faculty questioned the need for such radical change as the Model proposed. (The exchanges are summarized below, with Faculty to note those questioning the Planning Committee and Planning Committee to note the reply. The summary is not word-for-word, unless so noted by quotation marks.)

Faculty: Why have the Model completely replace the present program rather than having it in addition to the present program?

Planning Committee: The present system did not lend itself to the objectives listed in the report describing the Model. It was not economically feasible to continue in our present system.

Faculty: How is the goal described in the model different from the present goal?

Planning Committee: We have given lip service to that goal in the past, but have not really committed ourselves to it. We made an effort in the model to do something unique. We stated the goal of teaching a student how to learn and based our degree requirements on the student satisfying that goal, not on his passing a certain number of courses.

Faculty: Have we been such a complete failure? Isn't this a matter of opinion on your part?

Planning Committee: The first report contained an evaluation of the present status of the college. We did not see much refutation of what was said then. Tech has not been a complete failure. But we've offered the same thing as is available elsewhere and collected a premium price for it.

The faculty was also concerned with the ability of the students to cope with such a program as suggested by the Model.

Faculty: It is as dangerous to overestimate the abilities of students as it is to underestimate them. Can projects be coped with by undergraduates?

Planning Committee: It is our belief that potential of our students has been underestimated in the past. Students must have experience in doing things. The projects could be so arranged that a senior would spend much more of his time in project work, when he had a background in the field, than freshman, although we feel a freshman should be exposed to projects.

Many faculty seriously disagreed with the methods suggested by the Planning Committee. A great fear existed that a student would, by spending much time receiving a background in humanities and sociological needs, not receive an adequate background in technology.

Faculty: The emphasis seems to be on project work and social significance. I'm worried that the projects will become technically trivial.

Faculty: Triviality exists independent of the particular structure. The faculty will get trivia only if they accept it.

Faculty: A student came to me as a freshman and said he was concerned about human needs. I told him that I couldn't advise him much about human needs and that he should devote his time to chemistry. He did, went to graduate school at Stanford, and is doing quite well. He wouldn't have been able to if he had been concerned about human needs and devoted much time to that. There is a danger of hurting our reputation in the sciences by watering down the school with a concern for human needs.

Planning Committee: It is not the intent of the Committee that all projects be of the humanistic-technological type. Everyone at this school would not have to do such a project. All we wish is that everyone have some exposure to human need. This does not exclude a very competent person interested in basic science.

Faculty: Can we provide both kinds of knowledge--technological and humanistic--at the undergraduate level? We may end up with people with insufficient technical knowledge. It might be more reasonable to train technically-oriented people in the humanities in graduate school. We should capitalize on improving our strengths.

Planning Committee: We do not see how we can weaken the present technical education, we can only strengthen the knowledge of technology by the projects. What we are afraid of is that a person will emerge very strong in technical subjects under the Model, but will be very deficient in the humanities and social concern.

Faculty: What does the Committee mean by an unstructured curriculum?

Planning Committee: Presently the student buys a program and fulfills the requirements by completing courses. In the proposed system, the student and advisor sets a goal for the student and then forms a program for the student with much greater flexibility.

Faculty: What will happen to the departments?

Planning Committee: We recognize that there are areas of speciality and that these will continue in the Model. There is a need for a much greater flexibility and more interdisciplinary programs. The present department structure greatly hinders that.

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Juniors Seek New Physics Lab Format

An open meeting to discuss student-proposed change in Physics 351. "Experimental Physics I" was held by Junior Physics majors and faculty members of the Physics Department last Thursday. The meeting was organized by three Junior Physics majors, Don Filan, Dave Hobill, and Glenn White.

The meeting came about after the following statement was circulated in the physics department by the three juniors.

The meeting lasted for an hour and featured frank, yet polite, exchange of views between the faculty and students. The entire junior class of physics majors attended, as well as seven physics professors and a few graduate students.

The two faculty members now teaching the lab agreed to draw up a list of the topics to be covered in the lab course next semester with a short description of each and to present the list to the junior physics majors. Each junior physics major can select one of these or choose a topic of his own to work on.

The circulated statement follows.

An open meeting will be held to discuss the format of the second semester junior experimental physics course, and to explore the possibility of changing it into a project-oriented course.

Out of a lack of involvement in and stimulation by the present junior lab course (ph 351), many juniors have recently questioned the format of Physics 351 and would like to change the format of Ph 352 scheduled next semester. What is presently an uninspiring collection of experiments should be replaced by a different approach to lab experiments no later than next semester.

We strongly urge that a project-oriented lab course be considered. We urge that it be designed to stimulate and involve individual and group creative and intellectual efforts through student choice of a research project. We also believe that those students preferring to continue in a lab course similar to the present one be permitted to. After taking an informal poll, however, the great majority of physics majors in their junior year favor the project-oriented lab.

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Nat'l Science Foundation Grants Fellowships

WASHINGTON, D.C. -- The National Research Council has been called upon again to advise the National Science Foundation in the selection of candidates for the Foundation's program of graduate and regular postdoctoral fellowships. Panels of outstanding scientists appointed by the Research Council will evaluate applications of all candidates. Final selection will be made by the Foundation, with awards to be announced on March 15, 1970.

Postdoctoral and graduate fellowships will be awarded for study in the mathematical, physical, medical, biological, engineering, and social sciences, and in the history and/or philosophy of science. Awards will not be made in clinical, education, or business fields, nor in history or social work, nor for work toward medical or law degrees. Application may be made by college seniors, graduate students working in a degree program and individuals wishing to do postdoctoral work. All applicants must be citizens of the United States and will be judged solely on the basis of ability. In the postdoctoral program only, fellowships will be offered also for work in applied and empirical studies in the field of law which employ the methodology of the social sciences or which interrelate with research in the natural or social sciences. The plan of study or research in the field of law must be at the postdoctoral academic level, since postdoctoral fellowships are not intended for study toward an advanced degree of any kind.

Applicants for the graduate awards will be required to take the Graduate Record Examinations designed to test scientific aptitude and achievement. The examinations, administered by the Educational Testing Service, will be given on January 17, 1970 at designated centers throughout the United States and in certain foreign countries.

The annual stipends for Graduate Fellows are as follows: $2400 for the first-year level; $2600 for the intermediate level; and $2800 for the terminal-year level. The basic annual stipend for Postdoctoral Fellows is $6500. Dependency allowances for tuition fees, and limited travel will also be provided.

Further information and application materials may be obtained from the Fellowship Office National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418. The deadline date for the submission of applications for graduate fellowships is December 5, 1969, and for regular postdoctoral fellowships, December 8, 1969.

MODEL III STARTS ROLLING

Work has already begun on forming the student sub-committees to the faculty Planning Committee. The number of student volunteers including students who did not pre-register, is about 174. As this number greatly exceeded the anticipated response, there has been some reorganization and breaking-down of the original committees into sub-groups.

The college Environment and Student Life Committee received the greatest number of applicants with about 56 students. Its subdivisions are: Housing and Dining, Fraternities, Non-fraternity Life, Campus, Worcester Area, and Over-all "Psyche" at Tech. The courses and Examinations Committee had already been broken down into two groups, the first headed by Prof. Grogan and the second by Prof. Kennedy, with eleven students in each one. Those committees which were relatively understaffed have been increased by students who did not give a preference when they asked to work in a sub-committee.

Those sub-committees which did not hold organizational meetings last week should have them scheduled for this week. Therefore all students will shortly have their assignments an will be able to

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Research Projects Include NASA Food Synthesis

Note: Dave Meyer, a '71 Management from Swarthmore, Pennsylvania, this week begins a series of articles on research being conducted on the Worcester Polytechnic Institute campus.

by David Meyer

If the Tech Community was informed of some of the nationally recognized projects that are going on right under our noses, I am sure that it would help solve one of the problems that was made sorely evident in our discussions during the second Planning Day, that of a lack of school spirit and pride in Worcester Tech. Lead by our own professors and peers, these projects have somehow gone on without our notice.

Some examples include Instructor Paul Amazeen's (instructor in the Electrical Engineering Dept.) project on heart arythma. Working under a grant by the National Heart Assoc., Mr. Amazeen hopes to use the observation of arythma, a quirk in one's heart beat, to forecast heart trouble.

On the humanistic side, an example would be Prof. John Worsley's research on the "gap" between the engineer and the humanist. Working to bring better communication and interaction, Prof. Worsley, of the History Dept. hopes between the two factions, one result might be the location of a cultural center here at Tech.

This week the featured project is a NASA sponsored food synthesis project headed by Dr. Alvin Weiss, of the Chemical Engineering Dept. Along with Dr. David Todd, of the Chemistry Dept. and Dr. John Meader, of the Chemical Engineering Dept., Dr. Weiss has some dozen volunteer graduates and undergraduate students working for him.

One of the outstanding members of this research team is a sophomore, Randy Partridge, who joined the group as a freshman. Randy, a native of Braintree, Mass., described the project as an effort to synthesize edible sugars from carbon dioxide evolved from human or natural waste products or from fossil fuels. He conjectured that someday industry might recycle carbon dioxide for food production.

More specifically the project, at its present stage, involves reacting carbon dioxide to formaldehyde (an embalming fluid). This is then reacted with calcium hydroxide, which produces formose a complex mixture sugars. Then there are two paths of research. One is to take the formose and reduce it by hydrogenation to glycerol, which can be metabolized to d-glose. The older path is to purify the formose directly into an edible sugar, (the formose is highly toxic.)

Randy, who built a gas chromatograph as a high school project, which later took first prize in the state science fair, has been work-

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Editorial

"Peace - No Thanks"

A thirty-ish woman leading her pre-school age son walks up the parking lot to King's department store. "Would you care to sing a petition for peace in Vietnam, ma'am?"

"No, I don't think so, not today."

"Would you prefer to have your son fight someday in such a war?"

"I have two more at home and I don't worry about it that much."

On Wednesday, October 15th, we solicited petition signatures and handed out leaflets at one of Worcester's shopping centers. While most people we approached were at least courteous in refusing to sign - and about one quarter of those approached did sign the petition- those between the ages of about thirty and forty-five were almost arrogant in refusing to affix their name to the call for peace. As if we were wearing red arm bands instead of black ones!

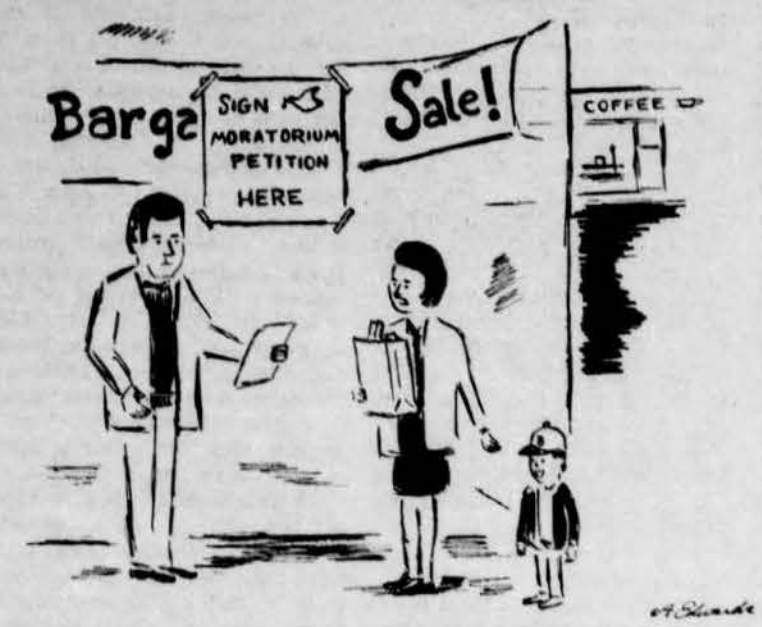
Curiously, this group has lived through two of our country's major wars. Could they be so proud of their generation's survival through these conflicts that they consider us unpatriotic, even traitorous? Or do they believe so strongly in the infallibility of the leader of our country that they can justify the loss of thousands of American lives and the presence of half-a-million American men in remote jungles half-way around the world?

We are not selfish if we desire peace, not only in our own country, but for all the peoples of the world. While this dissenting generation has grown up with the attitude of sacrifice for one's country, our generation has learned freedoms of thought and expression on a more idealistic level. Our parents were taught to stay away from black people - we say why can't we be brothers with black people?

We utilize extensively the right to question authority, in this case the presidential administration. President Nixon's statement that the moratorium would not affect him was a stimulus not only because he questioned our ability (from a tactical standpoint) to dissent, but he seemed to question our right to dissent. When a leader implicitly denies responsibility to his people, his abilities of judgement become doubtful.

Today's unintellectual middle class has somehow bought the idea that our country cannot be wrong. Their complacency only serves to prove their ignorance.

B.H.



"I HAVE TWO MORE AT HOME AND I DON'T WORRY ABOUT IT THAT MUCH."

GROK! by GLENN WHITE

Time To Speak Out

I feel frustrated in writing this column, for I've stated my views on the subject below time and time again and I'm drained of new ideas. I've spoken out for drastic reform at Tech and my views are known to everyone and can influence hardly anyone now. New voices from the students must be heard, new voices urging reform NOW!

Last year, with only 350 freshmen and great discontent visible here, the faculty readily supported the work of the Planning Group. But now, with 650 freshmen and a relatively quiet student body, segments of the faculty are beginning to feel comfortable again and to believe that Worcester Tech doesn't really need to be changed greatly, that students are reasonably happy with the school and do not have any ideas worth listening to, and that the faculty does not have to be open with the students, as they were not at Planning Day II. They are rejecting the Planning Committee's proposed Model and believe that the small turnout at Planning Day means that the students are contented with the status quo. They were for "change" --until someone actually came up with a proposal and they realized that the Planning Committee was planning to change Tech.

Tech students, are deeply discontented with the present status quo and are relatively quiet only because they believe the Planning Committee's model will be adopted. A common reaction among students is to wish that they were able to go through Tech under the proposed model. The fact that the great majority of students did not attend Planning Days I or II is a proof that the college must be changed to educate people who care and who feel confident enough in their studies to spend a day discussing something not required for a course.

At the faculty meeting described elsewhere in the TECH NEWS, some faculty members expressed dissatisfaction with the proposed model because they couldn't "pin it down", because they couldn't find a nice, simple definition for it. A flexible program, like the one proposed, cannot be defined precisely, especially when it is being formed. Their seeming inability to cope with the Model shows one compelling reason for change: After six to nine years of specialized, rigid training in a continuously narrowing field, many of the faculty cannot emerge from their small range of interests and are incapable of understanding something as wide open as the Planning Committee's Model.

Brown University decided last spring to introduce "what in many respects is the most flexible undergraduate curriculum to be found in any major American university today." (College Management Oct. 1969) The curriculum features no required courses and no requirements for course distribution and offers two grading systems--A, B, C (a D or an F in a course means it is not recorded) or "satisfactory" (unsatisfactory is not recorded). The most interesting aspect of the change is that the undergraduates at Brown brought the change about. In essence, they had to "force" the faculty to consider their proposal by having at

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The Liberal View

by PAUL CLEARY

U.S. Tries To Bust Sunnybrook Farm

Sunday afternoon at Clark and Abbie Hoffman is scheduled to speak at high noon. Surprisingly, at quarter to twelve only a few people are milling about in front of Atwood Hall waiting for the return of a home town boy. The return of the "conquering" hero. Crazy Abbie. Graduate of Worcester Academy and a product of his Worcester environment, now spending most of his free time in a Chicago courtroom.

By five past twelve I've given up believing that the mayor is going to show up with the keys to the city and instead direct my attention to Miraslu Billsley of the Worcester Punch who is reading some of his poems while Atwood fills up. Then some priest takes over to introduce Hoffman with a too long, too serious harangue aimed at people who have just discovered the stupidity of the Vietnam War. At the end of this twenty minute distribe, Hoffman speaks only long enough to introduce one of his defense attorneys. Mr. Weinglas spends his time explaining the case. The eight "conspirators", it seems, are not being tried for any violence they performed during the Chicago convention, but for "conspiring to have a certain state of mind" when they flew across the Indiana-Illinois state line. "This is one of those conspiracies," Hoffman says later on, "where the conspirators don't meet each other until the thing is all over. I didn't meet Dave Dellinger and most of the other guys until we were indicted in Chicago eight months after the convention".

Weinglas traces the history of the law under which the conspirators were indicted. In 1967, an anti-riot bill was introduced into the House which would have made "conspiring to cause a riot or to cause others to riot" a federal offense. The bill passed the House mainly because the 1967 Detroit race riot occurred while the bill was being debated. After it was sent to the Senate, then Attorney General Ramsey Clark, sent a letter to senators telling them to forget the bill since it was, in all probability unconstitutional. The bill died. In March of 1968, a Civil Rights bill was on the Senate floor when Strom Thurmond tacked the 1967 anti-riot bill on to it as an amendment in order to extract his pound of flesh from northern liberals for the passage of the Civil Rights act. The bill passed both the Senate and the House due mainly to the assumption of many congressmen that the anti-riot part of it could never be used since it was unconstitutional. The bill was signed into law and one day later the anti-riot provision was used to indict the "Chicago Eight". After noting several instances in the trial so far that have been far from just, Weinglas gives way to Hoffman.

At last, the star of the Chicago conspiracy trial. It all seems like a Marx Brothers comedy. "The Chicago Conspiracy." Co-starring Jerry Rubin, Tom Hayden, and Bobby Seale with supporting roles by Dave Dellinger, Rennie Davis, John Froines, and Lee Weiner. Written by the Democratic Party. Adapted for the times by J. Edgar Hoover. Screenplay to Richard Daley. . .

Hoffman's speech consists of a forty-five minute monologue that is notable for its dramatic imitations of Judge Hoffman, better known as Julius the Just, and a variety of others. Before he finishes a collection is taken up to help pay the expenses of his trial - in a piggy bank of course.

The whole trial is the biggest farce since someone proposed a televised debate between Agnew and Muskie during the '68 campaign.

Letters...

Give Penalty For Missing A Class?

To The Editor:

What is meant by the expression "mandatory attendance"? Webster's dictionary suggests that mandatory signifies obligatory. Thus the student has an obligation to attend classes, just as the instructor has an obligation to make those classes meaningful.

Whether we are mature adults or immature children is of no consequence, each of us must pay the price for our individual actions weighing in our own minds the pros and cons in each case.

By inference, if there is to be no penalty for missing a class then it is up to the instructor to make certain that nothing which might be worthwhile occurs during that class. Some students may think that the faculty has already perfected this technique.

If I should decide that I want to become a good basketball player or painter (or even engineer) there are certain things which I must do including some tedious effort in learning to play the game well. Even after all my efforts I may still not have what it takes to succeed in this chosen field.

Remember that you don't get to play in the game just by showing up on Saturday afternoon.

Prof. F. A. ANDERSON
M.E. Dept.

"Independent" Students Need Social Life

To The EDITORS:

WPI needs a coffee house-dance. I can't overstate the need. Not all Tech students are fraternity brothers and not all Tech students enjoy bothering the houses for entertainment all of the time. There are many independents (noting the growing female population) who do not think a fraternity party is the only way to enjoy a Friday or Saturday night at a relatively low cost. Sure the Social Committee sponsors events - but only on special occasions or when they do not conflict with fraternity programming. Where does that leave the rest of us? Even if only 30% of us are independent in a school of 1400, 420 of us are being neglected.

By utilizing space in the basement of one of the dorms, some paint, chairs and a soft drink bar (let the alcohol stay at the houses) and live entertainment backed up by records, we'd be in business. An admission charge of fifty cents or less to students of the consortium and some imagination could make people want to come, have a good time and enjoy themselves that night and the morning after. With more support better entertainment would be possible at the same price; with some luck Tech and Worcester could offer some decent continuing entertainment. Opinions are welcomed, box "G" Boyton.

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Letter...

Alumnus Lauds Planning Report

Note:
Bob Behn received his B.S. in Physics from WPI in 1963. He earned an M.S. in Marketing from Harvard in 1965, and in 1968 from Harvard received an M.S. in Decision and Control. He is married to the former Judith R. Howe of Belmont, and is presently employed as a Research Director for the Ribbon Society of Cambridge.

To The Editor:

It was only on the evening before Planning Day that I was able to read the third report prepared by the Faculty Planning Committee. The radical proposals were certainly intriguing, but I had little opportunity to digest the suggestions included in the proposed model or to seriously consider their worth before October 3rd. However, after the discussion and debate of Planning Day and my subsequent thinking, I have become enthusiastic about the undergraduate program proposed by the Planning Committee. This results from the discovery that the recommendations specifically rectify a number of the rather basic deficiencies which I have found in my educational background since graduating from Worcester Tech six years ago. In this context, I would like briefly to touch on half-a-dozen fundamental elements of a scientific-technological education.

1. Basic technical information. I first understood the rather essential relationship between differential equations and electric circuits while standing before a blackboard teaching a class of college juniors. My failure to absorb this elementary bit of knowledge while an undergraduate at Tech was not for a lack of exposure to it in the classroom; I had one course in ordinary differential equations, one in partial differential equations and at least three in electrical and electronic circuits. The problem was, I feel, that the incentive system under which I labored never required either that I retain the knowledge that I learned in one class for use in another, or that I correlate the information obtained in two related courses.

It does appear, however, that the proposed program solves this problem. Currently, requirements for graduation, based on the hour and final examinations given in each course, demand merely that each student cram into his head the specific formulas, relationships and concepts necessary to pass each isolated exam; after the final there is no further requirement that a student either retain this information or relate it to the rest of the scientific knowledge to which he has been exposed while an undergraduate.

The replacement of sequential, uncorrelated examinations with a single comprehensive one alters the personal incentive system so as to require the individual student to understand the basic concepts in the field he has selected. To prepare for a general exam, on which he will be asked to explain concepts and will need to correlate related information to solve problems, the student must adopt a program of study that focuses on the essentials. It is the type of study required, not the examination itself, that is of the most value.

Thus I am of the opinion that the new proposed program-- rather than eliminating the student's exposure to the basic principles of his discipline as some have argued --would significantly improve the undergraduate's familiarity with the necessary scientific fundamentals.

2. Scientific problem solving. An engineer or a scientist must not only understand some basic precepts, but he must be able to apply them in what is known as the scientific method. Unfortunately, there is little in the standard four year undergraduate curriculum of 40 courses that permits the student to develop the ability to solve real problems. Too many homework and examination questions involve no more than finding the formula that contains all the variables given, plus the unknown. Even senior theses are handicapped by conflicting requirements; the project should be an original piece of research and yet a college senior, with no previous scientific experience, should be able to complete it in six months.

Sitting at the Planning Day discussions, I realized that only when I was exposed for two successive summers at Lincoln Laboratory to a team of scientists attempting to find answers to vaguely defined questions did I develop personal techniques for solving problems. The need to test hypotheses with simple calculations designed to expose inconsistancies, the self-help value of attempting to explain a problem to a colleague, and other tricks for "real-world" scientific problemsolving can only be uncovered from a complete immersion in a technical effort. Consequently, I am encouraged by the project feature of the new model, for it seems to provide the student with the essential exposure to the scientific method.

3. Personal decision making. One of the aspects of an individual's emotional growth that cannot be directly provided through formal courses is the ability to make personal decisions. Yet this is an important part of the emotional maturity which every student should develop during his college years. The fixed curriculum which was the rule at W.P.I. during the first part of this decade offered absolutely no opportunity for the undergraduate to learn from experience the ingredients which go into a logical personal decision. Even now, once a student has chosen his major field--and I am afraid that most of these decisions are made on purely irrational grounds; my own was based on some nebulous, romantic high school notions -- his college program is mapped out to a significant degree.

Thus, I view the unstructured program proposed by the Planning Committee as an important opportunity for the student to make various decisions--small ones at first, big ones later -- as he gropes for a maturity that will later permit him to make his own, "real-world" decisions on a sounder basis. The role of the advisor is, of course, crucial here, but it is important to note that, as his title states, his purpose is to advise. He should point out logical inconsistancies in a student's choices, as well as the spectrum of choices and what a present decision implies for those further down the line. The important thing is not for people to make the correct decisions, but for them to learn from their decisions; in the long-term perspective mistakes may be more valuable than "proper" choices. An educational program that requires a significant number of both important and trivial personal decisions is far superior to one that programs the student.

4. Written expression. The casual perusal of any scientific journal is sufficient to demonstrate the fact that most engineers and scientists cannot write. They cannot put the ideas they conceive down on paper and--since science provides the alternative language of mathematics -- engineers hide their inability to write behind numerous formulas. Consequently, any scientist or engineer who is capable of making his ideas intelligble on paper, has a distinct advantage over his colleagues.

However the curriculum at W.P.I. never demands any serious technical writing from the undergraduates. In preparing laboratory reports--the major experience the undergraduate has with pen or typewriter--there is no need to communicate with the laboratory instructor for both know the principle which the experiment is designed to illustrate. The instructor does not need to demand a well written and organized report--nor does his sense of priorities permit him to worry about a student's literary habits. My conclusion is that the only way a student will learn to express his ideas with any precision is through practice--and that this practice will only be meaningful if there is an actual need to communicate.

From this perspective, the projects have an important potential. If in the process of all projects, all participants are required to communicate progress and suggestions in a written manner, the student will be placed in a position where he will have to develop the invaluable talent of written expression.

When I first thought about this complaint in the light of the proposed model it appeared that there might not be any improvement. However, if it becomes the norm to communicate project ideas on paper, there will be a quantum jump in the literary talents of W.P.I.'s graduates.

5. Social awareness. As the proposed model has the indirect potential for developing literary talents, I think it could also have the benefit of broadening the outlook of W.P.I.'s undergraduates. Many high school students select an engineering college on the basis of either fear or hatred of the humanities and social sciences. They seek isolation in a college that relegates these disciplines to a purely secondary role. Unfortunately, the engineering school is an accomplice in maintaining this parochial attitude; through inferior courses and the absence of informal exposure, the engineering college tells the student that these areas do not count.

If motivation is at the heart of the problem, only an exposure to new experiences, where new values are important, will affect any meaningful change. The new curriculum does that by placing the student in a position where, hopefully, he will develop an appreciation for other factors beyond the standard engineering criteria of efficiency. There exists the potential, perhaps small, that by requiring the student to become involved in at least one humanistic technological project, the proposed curriculum will significantly broaden the views of the student far beyond what can be realized through the standard humanities, social science courses.

6. Intellectual environment. Last year on a trip to Bell Labs in New Jersey I met an alumnus who I had known when we were both undergraduates; as is to be expected, we started talking about W.P.I. "It wasn't that Tech was anti-intellectual," he complained, "the problem is that it's non-intellectual." The point rang true for me, for it wasn't until I was in graduate school that I discovered the void in the intellectual environment at Worcester Tech. Intellectualism wasn't suppressed, it merely wasn't recognized.

Examining the model program, I discovered that one of the important features, that is explicit in places (but implicit throughout) is the need for establishing a community of students and scholars, engineers and scientists who learn from each other. I was distressed to hear a number of faculty and students on Planning Day speak in terms of that strict dicotomy into which the Worcester Tech community is divided: 1) teachers, 2) students. In fact, however, the faculty have much to learn from the students. I have heard many of the faculty at Harvard comment that their undergraduate classes are more enjoyable than those they teach to graduate students, for the younger minds ask the more penetrating questions. And it is common in Cambridge and elsewhere to joke about the number of books in which the college professor turned author thanks his freshmen seminar for the ideas they contributed to his book.

It is fashionable to criticize large universities that employ graduate students to teach undergraduates -- particularly in tutorials. However, this provides both a valuable experience for the Ph.D candidate and an opportunity for the undergrad to spend long hours exposed to a more educated mind. Indeed, the ideal academic community has--rather than two distinct levels of students and teachers -- a continuum of individuals from freshmen to full professor with each student relating not only to those on the faculty but to those students above him and those below. The project system proposed offers this type of opportunity to the benefit of student and faculty alike. The lower level students learn from the examples set by their seniors, while the upperclassmen are required to rigorously structure their understanding of scientific principles and their own ideas as they attempt to explain them to the the neophytes.

In conjunction with this point, it is important to note that education does not end in the classroom and that if W.P.I. is to provide a more broadly meaningful educational experience, it must expand the relationships between the members of the community. The recognition that the living environment--not only physical but mental --is a factor in the undergraduate's intellectual growth is key. Certainly W.P.I.'s community life will have to be reexamined to ensure that it meshes with the more formal aspects of the college's educational program.

It has been argued that the proposed program will not work: that W.P.I. 's students will be unable to cope with the new responsibilities for self-study or curriculum decisions; that they have insufficient motivation now and thus will be unable to perform in a program that demands substantially greater self-drive.

However, it seems invalid to base such evaluations of the capabilities of college students on their performance if the system gives them little incentive to be other than dullards. If the students are not learning the fault can lie within the method of instruction as well as in the mentality of the students. To fail to make revisions that correct some of the fundamental inadequacies of W.P.I.'s current program may well condemn future generations of Tech's graduates to mediocrity.

Bob Behn
Physics '63.

ATTENTION

The WICN Sports Department will hold a meeting on Wednesday at 7:00 in Daniels Commons in Riley Hall. Broadcasters, producers, statisticians, writers; all are needed. Frosh, Sophomores, Juniors, and Seniors are welcome to attend. Plans for the basketball season will be discussed.

Thoughts

by Jim Hannoosh

Communication is one of man's greatest achievements and downfalls. It is paradoxical in nature because, having derived the mechanism of language and grammar, he has failed to utilize the tool he has created. Language is magnanimous — it overwhelms all finite sizes in terms of words and combinations thereof. Why limit our use of the "combinations thereof" for strictly personal, tangible needs? Let us laud the system which has given us this opportunity to communicate, let us laud our college.

"Pride in our past, faith in our future" must sound beautiful to a 19th Century evangelist. The writer considers it most trite. Don't just have faith in *this* (your?) future, be an integral part of it. Speak so those around you will listen. Listen to the societies sounds that will shape destiny. Be objective in your listening and persuasive in your speaking. Who knows, maybe man's greatest achievement might just save him from his disastrous end; his apathetic self.

Peace

WHAT'S UP

WORCESTER:

Oct. 28 Fenwick Theatre: "Waiting For Godot" By Samuel Beckett Holy Cross. 8:30 p.m. Repeated till Nov. 2.

Oct. 31 Movie "The Sergent" Kimball Cinemauditorium Holy Cross 7:30 p.m. Repeated Nov. 1.

Nov. 2 Drama Committee "Under The Milkwood. Maison Auditorium 8:30 p.m. Assumption College.

Nov. 2 Paint Exhibition. Paintings by OTTO F. Coontz 3-6 p.m. Assumption College.

Nov. 8 In Concert "Jefferson Airplanes" Assumption College

CAMPUS:

Oct. 31 Halloween Horror Flicks. Arts Society, Alden Memorial 10:00 p.m.

Oct. 31 Shield Holloween Costume Party. For all Independent Students Daniels Commons 8-12 p.m.

Nov. 2 Filmseries Exp. I. Five films in Psychology, art, and race explored. First "A plaque on your Children". A disturbing investigation into Chemical and Biological Warfare. Gordon Seminar Room, 7:00 p.m.

BOSTON PLAYS:

"The Iceman Comet" by Eugene O'Neill, Charles Playhouse.

"Eros" Craft Theatre, 95 Brookline Ave.

"The Price" by Auther Miller, Coloniel Theatre.

"The Proposition" Inman Square.

BOSTON CONCERTS:

Oct. 30 - Nov. 1 Al Kooper, King Crimson, and Aum. Tea Party.

Oct. 31 The Band Symphony Hall.

Nov. 1 Boston Symphony Orchester, Moussorgsky" Pictures at an Exhibition" Bonporti, Concerto Grosso in D; Schubert Symphony No. 4 "Tragic" Pizzetti, Prelude to "Fedra". Best Bet!

Letter...

Graduate Student Criticizes Cleary

To Paul Cleary:

In reference to your column, The Liberal View, which appeared in the TECH NEWS October 21, 1969, it is my opinion that anyone who cannot make his point without putting the quotation, "Everyone must realize by now that Nixon is a—— why does he have to go out and prove it," is trying, in fact, to prove that he is, himself, the very thing that he is inferring the President is.

HARRY S. FORREST

To Mr. Forrest:

I have several objections to your letter, having to do not so much with what you say as how you say it. First, nowhere in my Column is Nixon referred to as "a..", I thought the reference to a horse's ass was quite clear, I have never referred to anyone as "..." since "..." means absolutely nothing to me — even in Morse code. Secondly, you say in your letter that I am trying to prove that I am that which I "infer" the President to be. My objection here is minor. My column did not "infer" the President was a horse's ass; rather, my column was very explicit in the matter.

Now, as to your objection to the statement. Obviously you feel that one who cannot make his point (i. e. Nixon is a horse's ass) without calling the President a horse's ass, is a horse's ass. Just as obviously, our criteria for being a horse's ass differ; however, I maintain that there is a large portion of our population which feels that Mr. Nixon is that which my column stated he is (indeed, I even contend that many Americans might feel that the analogy is unfair to the horse), and that it is valid, therefore, to state that feeling in my column. I myself consider being called a horse's ass is no worse than being called an "impudent snob", a "neo-isolationist", or any of the other phrases which the Nixon Administration has used in dealing with its critics.

In order to judge exactly what effect being called a horse's ass has on the President, however, I am mailing copies of the original column, your letter, and my reply to the White House along with a self-addressed stamped envelope for some sort of executive opinion of the matter. The reply to the letter will be printed in the TECH NEWS — if there is a reply.

Sincerely,
Paul Cleary

PLANNING FEEDBACK

cont. from pg. 1 col. 3

Faculty: Have other schools given comprehensive exams? Can a good comprehensive exam be given.

Planning Committee: Many schools have comprehensive exams as degree requirements. An example of a comprehensive exam given to math graduate students in the past is the following: "We have just made contact with the Martians. They have a completely different mathematical system. In the next three hours, describe to the best of your ability our mathematical system." This type of test, because of its flexibility, is extremely difficult to correct.

Faculty: The Model provides room for only 25% of the time being spent on the projects, which are supposed to be the core of the model. Is the Committee only paying lip service to the projects?

Planning Committee: The 25% devoted to projects is an arbitrary figure and is meant to be a minimum. The students must get some knowledge to enable them to do the projects.

Faculty: If a person can do a competent project in his area, does he need the examinations?

Planning Committee: The report states that some members of the Planning Committee feel that the examinations are unnecessary. The exams are present to give credibility to the whole thing. Some faculty members were dissatisfied with the way the Planning Committee has been operating. They felt that the Planning Committee had only given the bones of the proposed structure and that it had oversimplified the purposes of Tech: Faculty: Only one of the many purposes of a college is to learn h o w to learn. "Knowledge for knowledge's sake" is also a worthwhile activity.

Faculty: When I talk to one of the Committee, I hear one interpretation. Then, when I talk to other members, I hear different interpretations. When I come back to the first one, I find his views have changed. I have a feeling I'm on an oilslick and I can't pin what you mean down.

Planning Committee: T h e reason why you're getting different answers lies in the type of program we are suggesting. The beauty part of this program is that it is "do your own thing". (A member of the planning group told me later that another reason for different views was that each member had his own view of the model, partly because it is still largely incomplete.)

A few faculty members (all I can remember is two) strongly supported the model in their statements. One commented that the ambition of the faculty was the question under consideration. "We do a reasonably good job, but not the best. The issue is: Will we try to go out on a limb and try to be the best?.....We need a very basic change in our attitudes, we need mental flexibility, we need to be willing to fail. We have got to be willing to do things differently."

The meeting was adjourned to this Wednesday and closed on a vote of thanks to the Planning Committee.

by Alan Dion

Freedom of the Press, on the college newspaper level, has been prominent in the news of late. Recently, at Lowel Tech, publication of the student newspaper was banned by the institute's president due to a disagreement as to what may and may not be printed. Meanwhile, here in Worcester, the STUDENT VOICE of Worcester State College has been shut down.

The trouble at WSC began when it was believed that the Oct. 14 issue of STUDENT VOICE would contain a reprint of an article by Black Panther leader Eldridge Cleaver from Ramparts magazine. The article is an excerpt from Cleaver's book THE BLACK MOOCHIE, which deals with a black adolescent's love for his teacher and a white girl. Pres. Eugene A. Sullivan of Worcester State halted publication of the newspaper and refused to lift the ban until the editors, who said they did not intend to print the article, signed a statement to that effect. After the issue was published and distributed, the STUDENT VOICE editors met and decided to voluntarily cease production of the paper. They then sent Pres. Sullivan a statement saying that any "form of censorship violates the inalienable right of the freedom of the press and hence cannot be tolerated under any circumstances."

The editorial staff then held an open student meeting to explain the reasons for the shutdown and to enlist aid in publishing an independent newspaper. The 125 students present unanimously supported the idea. Plans are now underway to raise the $100 necessary to print the first issue of the paper.

* * *

While freshmen orientation is not exactly a current topic, now may be the best time to evaluate Tech's program and begin planning for next year. As the freshmen should still remember what the orientation program consisted of and have had some time to determine well it helped their introduction to campus life, it would be good to have some freshmen offer suggestions for the program next fall. It should be noted that the 1970 academic year will open on a Wednesday (Sept. 16) with classes starting on Monday (Sept. 21), which adds another day to the orientation schedule.

In examining the programs of other colleges, it seems that there are many factors which contribute to the success or failure of freshmen orientation. A.I.C. reported great success when it added a group dynamics program to its schedule. This consisted of small groups of freshmen with one or two upperclassmen and faculty members meeting just prior to the opening of school to discuss the college, campus life, or any topic at all that concerns any member of the group.

The Clark University SCARLET expressed disatisfaction with its program, complaining that a heavy schedule of boring activities created a sense of "disorientation". The bright spot in their orientation came from upperclassmen who extended help on their own to the freshmen.

Northeastern U. had what it considered its best freshmen orientation ever. The program went on for about a week and in addition to the various registration periods included such diversified entertainment as a rock concert, a judo demonstration, a mixer and several guest speakers, including Bill Baird. The idea seemed to be to present a schedule that didn't crowd too much in a short time and featured a number of interesting activities. Furthermore the schedule was designed to be as open as possible.

Physics 351

cont. from pg. 1 col. 5

T h e present experimental course, and all physics labs to date, have failed to give the students a feeling of self-confidence and competence. It has degenerated, in many cases, to simply a cookbook lab to be completed as rapidly as possible.

One objection to this proposal which has been raised is that a person could not be considered a conventional physicist (if there is such a beast in what is a very diverse field) unless he has completed certain basic physical experiments. This statement is based on the idea that there is a set body of knowledge to be learned. This, in view of the present knowledge explosion, has been long outdated and is contrary to the purpose of scientific education. We should be educating men to be scientists, to producing memory banks.

Another objection which has been voiced is that it would involve too much work for the student. Would it be such a tragedy if Tech students became really interested and involved in their studies for a change and spent willingly extra time on them? The idea that there wouldn't be enough time to complete other coursework suggests a change in the structure of those other courses.

An objection, made in another department in reply to a similar course, is that the teacher loses CONTROL over the direction of the students' thinking. It is high time that the students, after 14 years of education, began to thing for themselves!! Creative and individual thinking should be encouraged.

It is our hope that action on this proposal can be taken quickly and not delayed by administrative red-tape.

Some have felt that Physics 352, as presently constructed, serves as a background to the junior electronics course. Many students, however, have expressed an interest in exempting the electronics course on the honors plan. Those who still would take the electronics course could easily work out appropriate project work.

We propose such a "revolution" not as an end in itself, but as means to a more effective approach to education.

The meeting lasted for an hour and featured a frank exchange of views between the faculty and the students. The entire junior class of physics majors attended, as well as seven physics professors and a few graduate students.

The two faculty members now teaching the lab agreed to draw up a list of the topics to be covered in the lab course next semester with a short description of each and to present the list to the junior physics majors. Each junior physics major can then select one of these or choose a topic of his own to work on.

THE FACULTY PEN

by Robert W. Fitzgerald

The Planning Committee report describing a model for achieving educational objectives for Worcester Tech has been discussed on this campus for several weeks now. The committee is to be commended for its efforts, which showed both imagination and a recognition of educational problems. The model focuses clear attention on our problems by selecting an approach that is educationally the antithesis of our present system. It is well that the committee had the foresight to select a model of this type, rather than a more realistic approach, for only in this manner could they effectively stimulate debate and direct discussion toward development of a better means of education.

Although the educational objectives and the means of achieving them are of primary interest, I would like to consider other aspects which, although not educational in nature, must be considered in conjunction with any educational changes that will take place.

In any social structure, whether it be national, local, family, or school, each generation adapts itself to existing conditions, and tries to modify those conditions to make them more compatible with its own needs and desires. In man's lifetime a generation is considered to be 33 years. Changes that take place within a group become evolutionary in nature, exhibiting the inertia of overlapping generations. Major changes take place as mass movements, rather than as sharp changes in direction. Day to day changes are not clearly recognized, but if one is able to see from generation to generation, significant changes become evident.

A school exhibits, in general, the same evolution of objective, purpose, and means of accomplishing that purpose as does a society in general, However, a college student generation spans only three years rather than 33 years. The student and faculty perspectives are often, therefore, seen from different frames of reference. Regardless of ones frame of reference, however, an educational institution need not necessarily adopt a single organizational system or procedure to accomplish its goals.

Many organizational systems may appear promising in theory, but the only valid and effective solutions result from those that evolve as a "natural" consequence of human behavior and need. This does not necessarily mean that it must be a natural consequence of human desires, although hopefully this is also accomplished. Because an undergraduate generation is only three years in duration, a student would not generally know the historical changes, the debate, the philosophy, or the people that effected any change only four years earlier. If a system is selected that does not conform reasonably well to human behavior and actions, either it will be modified to a more natural organization or it will be maintained only by the expenditure of a tremendous amount of energy or expense.

In education we have always experimented in effective means of learning. While we have a long way to go in our quest for perfection, we also have a great deal of experience in methods that have proven themselves to be valid and effective. In educational, as in any experimental research, initial assumptions and theories are made, and these must be proven or disproven during the course of the research by an open-minded investigator. Often a considerable amount of inefficiency, groping, and separate testing are necessary before the research can be modified sufficiently to accomplish its goals. Many times the final result is quite different from that which the researcher had originally anticipated.

We must control and evaluate any total institute commitment involving revolutionary and unproven theories quite carefully. A student may lose his academic self-identification as easily in an unstructured situation as he can lose it in a rigid, inflexible program. A program of study can be developed that is both flexible enough to provide for those students who have a clear objective in mind, and which also provides several more directed programs of study for those students whose objectives are less clearly defined. Total institute involvement in any single unstructured system may find students, during the early years of experimentation, frustrated for reasons which may be either valid or invalid. In any event, if this occurs, the resulting notoriety may well cause the end of WPI as a private, independent institution.

Worcester Tech, along with other private schools, faces a chronic financial problem. This will continue until other sources of permanent income are found. Since student tuition is still a vital part of our budget, we must change both our present system to eliminate its academic deficiencies, and at the same time retain its proven areas of strength. During this period of transition, we must not totally commit ourselves to any new experimental program before it proves itself to be viable.

A final consideration for this article is concerned with the desire to emphasize projects as an integral and significant part of the curriculum, and the replacement of the existing departmental structure with a new and (initially) looser departmental structure. In reality, these two aspects are independent of each other, and one could be easily instituted without major modification of the other.

The major criticism of the existing departmental system is that it is too structured and too rigid for effective education of the student. This inflexibility and rigidity is not a function of the organizational structure, but rather a function of the faculty and administration who operate and administer the system. Flexibility of program and a departmental structure can certainly be compatible as long as the attitude on the part of the faculty and administration show the reason and flexibility necessary to keep them in phase.

The Planning Committee has accomplished its job. It has recognized that changes are needed in engineering education, and it has provided an effective vehicle to focus on problem areas. In addition, the model that was developed is in itself a valid valuable research proposal. Experimentation of this type should certainly be conducted. However, until it has proven itself, it should be carried on in addition to, rather than in place of, our existing organization, suitably modified. If this or any other experiment is found to be successful, legitimate pressure will easily cause it to develop into a "natural" system.

"The Direct Image"....Worcester Art Museum Fall Exhibition

A provocative loan exhibition of 18 monumental canvases comprises the major fall show at the Worcester Art Museum. Entitled "The Direct Image in Contemporary American Painting," the exhibition brings together for the first time in New England the work of six American painters who have profoundly influenced current art trends: Morris Louis, Barnett Newman, Ad Reinhardt, Kenneth Noland, Frank Stella and Larry Zox. Louis, Newman and Reinhardt were forerunners in the artistic exploration of the value of the image as image, a discipline which was pursued and expanded by the three younger artists in the exhibition.

The painting from museum exhibition of contemporary art.

"The Direct Image", will be on view until November 30.

ONE OF CONTINUING SERIES

"The Direct Image" is the latest in the museum's continuing exhibition series devoted to contemporary art. Recent exhibitions include "The New American Realism" (1965); "Light and Motion" (1967); "Picasso, His Later Works" (1962); "Aspects of Twentieth Century Painting" (1963); as well as photographs by Dorothea Lange (1966) and Henri Cartier-Bresson (1968).

IMMENSE CANVASES

The entire fourth floor of the museum has been given to "The Direct Image" to display the immense canvases. Leon Shulman, organizer of the show and author of the exhibition catalogue, arranged "The Direct Image" with a simplicity and open space in the installation analagous to the paintings themselves. Executed in acrylics and oils, the paintings range from vibrant colors to soft, muted hues. They vary in length from 9-1/2 inches to over 26 feet.

As the exhibition title suggests the artists have captured the bare essentials, without elaboration. Using the simplest of lines, colors, planes and forms, each painting becomes a statement within itself -- a powerful statement, both in physical size and in emotional impact.

All six artists display a common economy of force although each painter has developed an highly individualistic technique.

THE ARTISTS

Morris Louis, born in 1912, developed a technique of staining pigment directly into the canvas in transparent, fluid diagonals and verticals. Louis continued to perfect his technique of reducing the image and creating elegant color interactions until his death in 1962. Louis's transparencies strongly contrast with Massachusetts-born Frank Stella's shaped canvases in sharply defined, fluorescent acrylics. Louis has a casual regard for the framing edge, which Stella focuses on the edge, emphasizing a compact, inclusive canvas unit.

Noland, who was a close friend of Morris Louis, also employs a staining technique. Noland chooses familiar object images -- targets, chevrons, parallel bands and, more recently, horizontal stripes. "Brown Stretched", an elongated diamond-shaped canvas, unifies four diagonal stripes into a single structured unit. His "Tropical Zone" utilizes the raw canvas area in its obtuse chevron pattern.

Barnett Newman began to explore the possibilities of reduced images as early as 1948. He is represented in "The Direct Image" by three rectangular canvases and the large triangular painting, "Chartres". Newman's "Shimmer Bright" and "Who's Afraid of Red, Yellow and Blue II", painted in 1968 and 1967 respectively, place narrow vertical stripes against a large monocolored area, invoking a "re-evaluation of the nature of experience". By stripping away the props of images which evoke associations of past experience, Newman leaves the viewer only the essential elements which he must then experience for himself. At 64 years old, Newman is actively painting today in New York.

Distinctly different visually are four paintings by Ad Reinhardt. His almost imperceptible square patterns in black, and one in red, demand the viewer's willingness to study the canvas until the patterns become visible. Together with Newman and Morris Louis Reinhardt fathered the exploration of minimal imagery, an artistic discipline which went beyond the active involvement between painter and viewer in Abstract Expressionism, to a more subtle and more demanding interaction. Reinhardt died in New York in 1967 in the midst of the artistic re-evaluation which he helped to provoke.

PAINTING CREATED ESPECIALLY FOR THE DIRECT IMAGE

The sixth artist in "The Direct Image" is Iowa-born Larry Zox. At 33 Zox is the youngest artist in the exhibition. He is represented by two large canvases, "Cerbus" and "Mobjack", both executed this year. "Cerbus" was especially created for "The Direct Image" and he has never before been seen publicly. Also included in the exhibition is Zox's drawing for "Cerbus".

Planning Subcommittees

cont. from pg. 1 col. 5

begin evaluations and research into the various proposals of the Planning report. As many of these proposals are innovative or unique, the committees will need much projective thinking in their investigations. It is within these sub-committees that many of the obstacles to the execution of the Planning Report proposals will first be encountered and hopefully overcome. Should any group discover that the goal or idea they are investigating is unfeasible or impractical in its present form, it will be up to the sub-committee to adapt the idea to fit the circumstances or else come up with an alternate proposal which is congruous with the ideas of the original.

These committees will have until the early part of December to work on their topics. By mid-December the Planning Committee will begin final evaluation of all proposals in order to present the final plan to the Board of Trustees in the first part of February.

Tech Projects

cont. from pg. 1 col. 4

ing with more sophisticated equipment of the same type in an effort to analyze and separate the sugars from the formose composition. A unit that will be of great aid for the identification of at least fifty-some sugars is a new mass spectrometer. This machine fragentizes the sugars by bombarding them with electrons. They are then separated by use of a magnetic field and identified by analysis of quantity versus mass number on the only equipment of its type in New England.

With another forty thousand dollar grant from the National aeronautics and Space Administration, Dr. Weiss's team of researchers hope to isolate and refine non-toxic sugars and carbohydrates and develop a process of mass producing the food for use by astronauts or for relieving the starvation in the poverty stricken areas of the world.

Grok!

cont. from pg. 2 col. 3

least one student visit each professor to discuss the students' proposal. Their program is now operating.

At Tech the students have at most aired their gripes and ideas to the Planning Committee and silently hoped for the best. But I remember Paul Cleary's comment upon one of the original twelve proposed objectives (which has now been incorporated into the Model): "It would be something new for this country. I get the impression that this place isn't about to be the first to try something new." The chances of the Model or of any great change being accepted at Tech are small unless the students voice once again our dissatisfaction with the school and our desire for extensive change. If you want to see change at Tech and if you want to see Tech be the first to try something new, you must speak out now.

Gridders Lose 30-22, To Sub-Par USCGA

The Varsity football squad, seemingly thinking that it was to have an easy afternoon last Saturday, found out in the early going that they had their work cut out for them. The Engineers were put into the 2-4 slot as they lost to a high spirited Coast Guard Academy, 30-22.

It only took four minutes for the Cadets to find a weak spot in the Tech defense, as end Bruce Platz was open for a 27 yard pass play from quarterback Guy Goodwin. The extra point was wide but Coast Guard was up 6-0. It took WPI longer to hit paydirt, scoring in the last two minutes of the first half on a 2 foot dive by co-captain Bob Plante. Mark Dupuis' boot was good making the half time score 7-6.

In the third period the Engineers dug in on their own 22 and forced the Cadets into a field goal, which was good. However, five minutes later the big D - boys weren't as strong as Coast Guard went ahead 15-7 on a two yard run. The period ended here with Tech on the one foot line and fourth down. How Tech got into this situation is hard to say, for only a minute earlier it had a first and one situation. Again Plante was called on and came through for 6 points. Here, the Engineers faked a placement for the extra point, and Holder Steve Joseph passed to halfback Charlie Deschenes on a flag pattern for the two points conversion and a 15-15 tie.

Then with eight minutes remaining, Tech took over and drove 60 yards with Joseph sweeping left to go ahead 22-15.

Coast Guard took the kickoff to their own 41 and here's where the game ended as far as the Tech fans were concerned. A double reverse caught the whole right side of the defense off guard and the Cadets wingback raced 59 yards to close the gap to 21-22. The fullback had no problem getting the two points conversion, as the entire defensive unit lost their jocks on a fake sweep.

The offense did absolutely zero the next two times they gained possession and the defense did almost even worse as Coast Guard scored again on a 27 yard run with only 35 seconds left. The final score was a disappointing 30-22.

The Tech News SPORTS

I. F. SPORTS

VOLLEYBALL STANDINGS
Up to and including 10-23-69

List	Won	Lost
SPE	11	0
PSK	10	1
SAE	7	3
AEP	5	3
LCA	6	4
ATO	6	5
DST	6	6
Shield	4	6
TKE	4	6
PKT	4	7
SP	3	8
PGD	1	9
T.C.	1	10

With only one game left, SPE has at least clinched a tie for first. PSK being the only possible team able to tie with SPE has only one loss. PKT, last year's champs, is in a rebuilding year, and is in tenth place.

Frosh Tumble To Jumbos, 28-16

The Tufts University Freshmen used a series of long runs to whip the Engineer Frosh, 28-16, in Medford last week on the Young Jumbos Oval.

Even though the defense played largely a sound game giving the offense excellent field position several times, there were serious lapses as Tufts scored on runs of 65, 55, 45, and 5 yards.

Tech drew first blood as Dave Lind's kick just made it through the uprights for a 30 yard field goal and a 3-0 lead. From this point on, Tufts took over and displayed a potent running attack. Behind 15-3, a Steve Slavick 3 yard plunge for a touchdown closed the gap. On the next series of downs a fumbled punt-set up another Tufts score and a 21-9 lead.

At this point, back-up Quarterback Mike Merkle came in and sparked the dejected offense. Tom Maurice closed a 50 yard drive with a 3 yard burst and Lind's kick was good, making the score 21-16.

Late in the game Worcester gambled for a first down on its own 30, missed and Tufts took over and scored the final touchdown with 8 seconds left.

Overall, except for a few defensive series, the Frosh were unimpressive in their final outing. Mental errors and penalties practically gave Tufts the game. In spite of this, Coach Vino and the Freshmen have nothing to be disappointed about after compiling a 2-1 season record.

J. K.

Tech Soccer Rolls Over Assumption, CGA

WPI's Varsity Booters got back on the winning track this past week as it recorded its fifth and sixth victories of the season. On Tuesday the Engineers pounded Assumption College 4-1, and on Saturday, Tech blanked Coast Guard 2-0.

Tuesday's game against Assumption proved to be an easy win for the Tech forces. Dave Matthews, our Australian representative, initiated Tech's scoring onslaught at 8:00 of the first period on a fine shot into the upper goal corner from outside the penalty area. Ken Roberts assisted on the first goal, setting up Matthews shot on a cross field pass.

Matthews wasted little time as he scored again on the exact same shot from the same field position beating the goalie this time in the lower goal corner. This score came at 13:00 of the first period, and was unassisted.

Tech's offense proved relentless, and came up with its third goal early in the second canto, Jack Blaisdell doing the honors from in close on a cross from co-captain Al Pruenal. With only 8:20 gone on the clock in the second period, Tech had a commanding 3-0 lead.

Assumption, who are always fired up and, who, incidently have beaten Tech only once in the past ten years--this came four years ago at the Assumption Field--finally scored on a fluke play. Larry Trombley picked up a loose ball in front of the Tech nets and sent a bouncing shot toward the Tech nets. The ball was covered by Terkanian, Tech's goalie, but somehow carromed off his side and slid slowly into the nets. This was at 10:20 of the second period.

Tech came back in the third period. Jack Blaisdell scored his second goal of the day at 17:55 to clinch the game for Tech.

On Saturday WPI travelled to New London to meet the Coast Guard Academy and notched a well deserved 2-0 victory.

The first period proved uneventful as both teams felt each other out, looking for weak points to attack. Neither team dominated play as only three shots were taken on both nets.

However, the second period proved to be a complete turnaround! Tech found the Coast Guard's weak points and set up a relentless attack on the CGA nets. Joe Spezeski finally rippled the nets at 18:40 of the period. His shot was the result of a mad scramble in front of the goal. Spezeski finally got a foot on the ball and it squirted between the legs of two Coast Guard defenders and rolled into the goal. During this second period blitz CCA did not get off a shot on the Tech goal, a credit to the Tech defensive unit.

The third period proved uneventful as neither team produced a score, though Tech still controlled the play.

The final quarter (canto) proved to be a wild affair. By this time both teams were playing a very physical game and fouls were being committed at a break-neck pace. Tech, although getting physically battered by Coast Guard who had a larger team, scored their second goal at 9:55. Dave Matthews caught the Coast Guard defense down and rocketed the ball past the backstop and into the nets. The scoring opportunities that presented themselves to Tech in this final period were phenominal. Twice Jack Blaisdell hit the goal posts and Matthews hit the goalie himself with a shot.

The game, overall, was very roughly played with a total of 39 fouls and 2 warnings being issued on both teams, an extremely high amount. Tech, though, had the statistical advantage with 26 shots on goal to Coast Guard's 11.

Overall, Tech has outshot its opponents in every game and for the year the totals are WPI-255 Opp. 117, a 2 to 1 margin. Scoring has been the same with Tech scoring 27 times while being scored upon 12 times.

To date, the scoring leader for Tech is Dave Matthews with 6 goals and 1 assist for 7 points. Trailing him is Jack Blaisdell with 6 goals. Other scorers are Ken Roberts, Lionel St. Victor, and Ken Bassman with 4 points each.

The next home game is Tuesday, October 28, vs. U. Mass at 3:30.

Tech's record for the season stands at 6-2. With only 3 games remaining, Tech is assured of another winning season.

Potpourri

The Worcester Tech Crew Club participated in the Head of the Charles Regatta on Sunday October 26 in Boston. The team, which has been practicing diligently, finished an unofficial 13th out of the participating 35 teams.

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The W.P.I. vs R.P.I. football game takes on added significance this Saturday at Alumni Field. The Chevrolet Division of General Motors has donated a trophy for the winner of the contest. The Centennial Trophy as it will be called is given as part of the observance of the 100th year of college football.

The first meeting of the Cosmopolitan club came off as a big success. Dave Matthews gave a most interesting talk on Australia which everyone there enjoyed. It was good to see some new faces and freshmen. We would like to see more.

The next meeting will be on Thursday, October 30th, at the home of Mr. Hajjar of the C.S. department, 79-14 Park Ave., Worcester. There will be a slide show and talk on the subject of Central and South America. It will be presented by Dr. Leland of Central and South America. It will be presented by Dr. Leland Atwood at 7:30 p.m.

Transportation will be provided for those who need it at 7:00 p.m. in front of Alden. Anyone who is still interested may come. After the show there will be refreshments and social hour to talk with Dr. Leland.

Gale-Stocking Win Golf Match

The team of Jack Gale and Stew Stocking won the WPI Best Ball golf Championship by shooting an even par 72 on the 6,608 yard Wachusett Country Club. Second place went to the freshmen pair of Mike Decollibus and Pete Angeloff, who shot a 76. Cold weather and wind hampered the players throughout the day. The winners played steadily all day with Gale carding a 77 individually and Stocking a 78. Scores of the five top finishing teams are listed below.

Gale - Stocking	72
Decollibus - Angeloff	76
Tuomi - Ausanka	78
Torrant - Carton	78
Banks - Hayes	80

Sports Slants

Tech lost to Coast Guard. A very disappointing head indeed. For a majority who read it, it's just another loss. It doesn't really mean much to them. To members of the football squad it's not just a loss. It's the type of loss which makes them think. Sure it makes the coach think, but it makes the players think even more. Like "How could we loss to such a weak team?" I think I can answer that question.

You can look at football (or any other sport for that matter) in two different ways. One, is the players view, the other is the spectator's. Unfortunately I qualify for both because I played in the first two games, but due to an ankle sprain I've been out for the last four.

The player thinks he's doing his best and that his team is fully psyched and ready for anything. At least that's the way I thought. Then I became a spectoator and saw the light. There is no desire, no psyche until Saturday afternoon. This is evident during the weekday practices. Many of the players just go through the motions. They could care less about bettering themselves or their team. This should be the reason for participating in a sport. Many are out only because they're on scholarship and don't want to lose it. These are the people who ruin a team. Their lack of desire and psyche spreads like a disease to others.

So I say to my teammates let's get some desire and psyche. We have many talented players, but what we need most is desire--desire to win.

F. W. S.

Sports Schedule

Oct. 28		
Varsity Soccer vs. UMass	home	3:0
Oct. 30		
Freshman Cross Country vs. Assumption Prep	home	4:0
Varsity Soccer vs Boston University	away	7:3
Oct. 31		
Freshman Soccer vs Nichols	away	2:0
Nov. 1		
Varsity Football vs R.P.I.	home	1:3
Varsity Cross Country vs Williams, Coast Guard	away	12:3
Nov. 3		
Freshman Cross Country vs. Worcester Academy	away	4:3

Source materials used by Faculty Planning Committee in writing "The Future of Two Towers: Parts 1, 2 & 3" available at Reference desk in Gordon Library

The Myth of Humane CBW Is Exposed

Is Chemical and biological Warfare a more humane way to wage war? Remember 6000 sheep that died in Utah, or thousands of children incapacitated for life from mustard gas in World War I. Mustard gas was developed in 1916; today is 1969 and we now have gases such as G B, which when placed in an aerosol, 1 gallon can cause "The same high mortality caused by Hiroshima and Nagaski."

It is well known that some chemicals such as tear gas are able to incapacitate a man for a short time with little risk of killing. Some people have concluded from this that the introduction of non-lethal chemicals and even of biological weapons thought to be non-lethal might actually make war more humane. The argument has shown considerable appeal both for thoughtless Zealots who wish to advance the practice of CBW in any form, and also for persons who genuinely hope to make war more humane. Although it is true that some chemical warfare agents are relatively non-lethal in themselves, it seems to me almost certain that their use would definitely not make wars on the whole less savage and would in fact risk making them much more so, should it trigger the use of lethal CB weapons.

It is naive to expect that in a real war non-lethal agents would be used by themselves. Once introduced into combat area, the pressure would be very great to utilize them in any manner that increased the overall effectiveness of general military operations. Non-lethal chemical weapons would be used to increase the effectiveness of lethal ones. Tear gas can reduce the accuracy of enemy rifle fire, allowing one's own forces to approach more closely, increasing the accuracy and intensity of their counterfire. It can be used to force men out of protective cover and into the line of fire or path of bomb and shell fragments. Under the desperate pressures of a war fought with artillery, bombs, napalm, and other lethal weapons, it is only reasonable to expect "non-lethal" weapons once introduced will come to be used in order to kill. It happened in World War I when both sides used tear gas and other non-lethal chemicals in grenades and artillery shells to facilitate conventional infantry and artillery operations.

Today we have chemical agents such as GA, or Diniethyllaminoethoxycyanophosphine oxide which can enter through the skin and cause death within 1 to 2 minutes. The symptoms are, in normal order of appearance: running nose, tightness of chest, dimness of vision and pin-pointing of the eye pupils, difficulty in breathing, drooling and excessive sweating, nausea, vomiting, cramps, involuntary defecation and urination, twitching, jerking, staggering confusion, drowsiness, coma, convulsion and death. Does this appear more humane?

Why should we single out CBW for special prohibitions a question often asked. The question is understandable, but it seems that some substantial answers are contained in the remarks above. We realize special rules are required for nuclear weapons. Chemical and biological weapons share with nuclear ones the attribute of potentially overwhelming destructiveness. Biological weapons could pose a threat to the entire human race. Once developed Chemical and Biological weapons can be exceedingly cheap, relatively easy to produce, and quick to proliferate. They would threaten civilians especially. Their use would violate the oldest major arms control treaty now in force.

This treaty was proposed in 1925 in Geneva Switzerland. The Geneva Protocol is an agreement which states that the countries which sign will not use CBW first. It does not prohibit CB weapon production, nor does it prohibit reprisal in any kind. The point is 80 nations, including Russia, the people's Republic of China, and bothing republics of Germany have ratified this treaty. The only nations to not ratify are the United States and Japan.

If you agree that it is the duty of all human beings to bring an end to all wars, in any form, then we must bring the United States to ratify the Geneva Protocol of 1925. When we bring to thought that CBW could kill all living organisms on this earth, we do have a responsibility to stop CB production, if not to save our lives, then those of our children.

A special thanks to the Department of the Army for the information included in the above article. Also there will be a movie on CBW, Gordon Seminar Room, 7:00 p.m. on November 2.

Red Cross Seeks Relief For P.O.W.s

Washington, D.C. Oct. 1969 - The American Red Cross is intensifying its efforts to open channels of communication and relief to U.S. servicemen being held as prisoners of war in North Vietnam.

A resolution sponsored by the American society urging that prisoners of war be given the benefits and protection of the Geneva Conventions was adopted without a dissenting vote last month by the representatives of 77 governments and 91 national Red Cross societies attending the quadrennial International Conference of the Red Cross in Istanbul.

Last week the American Red Cross followed this action with a cable message to Red Cross societies in all parts of the world, asking that appeal to the Red Cross society of North Vietnam to take appropriate steps to insure that American prisoners are receiving the humane treatment called for in the Conventions. The Red Cross societies were also urged to have their governments address similar appeals to the government of North Vietnam.

In commenting in the Senate on this action last week, Senator J. William Fulbright, of Arkansas, said, "Irrespective of the nature of the conflict which gives rise to his imprisonment a captor should be mindful, in the words of the Convention, that a prisoner is in the hands of a detaining power 'as a result of circumstances independent of his own will.' He should, as recited in the International Red Cross Conference resolution, be promptly identified; afforded an adequate diet and medical care; permitted to communicate with other prisoners and with the exterior; promptly repatriated if seriously sick or wounded; and at all times be protected from abuse or reprisals. And, as specifically prescribed in the Convention, a neutral intermediary such as the International Committee of the Red Cross should be afforded free access to prisoners of war and their places of detention."

Earlier, the Senator pointed out that the steps taken by the International Red Cross Conference and the American Red Cross are not only entirely appropriate, but "should command the support of all men of good will."

He added, "The lot of a prisoner of war is at best an unhappy one, and all governments should be persuaded that the mistreatment of the prisoners of war lends no support to the political and military causes those governments espouse."

Latest Department of Defense reports show that 413 American officers and enlisted men are known to be prisoners of war in North Vietnam and 918 others are missing and believed captured. Both through the world Red Cross organization and through diplomatic and other channels, the American Red Cross has sought unceasingly since the beginning of prisoners.

While the government of North Vietnam signed the 1949 Geneva Conventions covering the treatment of prisoners of war, it has refused to permit delegates of the International Committee of the Red Cross to visit prison camps where Americans are being held. The Hanoi government also has refused to provide ICRC with the names of American prisoners they hold or to permit the regular flow of mail between the prisoners and their families in this country.

The purpose of the Red Cross in this renewed appeal is to strip the issue of political and all other partisan considerations, and simply, in the name of humanity and all mankind, to urge North Vietnam to lift its curtain of silence and provide relief and comfort to these helpless men and their grieving families.

ATTENTION:

All Grads and Undergrads who have not received their theater discount tickets can pick them up from Joe Kaye in front of the bookstore on Wednesday, October 28, from 4:30 - 5:30. After that, all tickets will have to be picked up from Joe Kaye at AEPi. Remember these tickets are FREE OF CHARGE.

THURSDAY, NOVEMBER 6 TH

FACULTY PLANNING COMMITTEE

FORUM FOR STUDENTS

10:45 AM

GORDON LIBRARY

Seminar Room

Fitchburg State College Paper Shut Down By School's President

FITCHBURG, Mass--(CPS)--The president of Fitchburg State College has shut down the campus student newpaper by refusing to sign checks for the paper's printing costs. The action came as a means of censoring an article by Black Panther, Eldrich Cleaver reprinted from this month's Ramparts Magazine.

John Anonelli, editor of the campus "Cycle", confronted the president, James Hammond, at the print shop after the printer questioned whether or not he would be paid if the article ran in the newspaper. Hammond confirmed the printer's suspicions by stating he would not sign a check for the printing bill if the Cleaver article appeared in the paper. The weekly paper has not printed since Sept. 22.

Tuesday evening the campus Student Government Association unanimously approved the adoption of the code of ethics on freedom of the United States Press Association which states in part, ". . . The freedom of the student press must not be abridged by confiscation of issues or facilities, suspension of publication, academic, personal, or financial sanctions, arbitrary removal of staff members, or threats of these actions." By ignoring the desires of the elected representatives of the student body, Hammond has demonstrated his disdain for their authority in such matters and his lack of concern for student opinion on his campus.

In a meeting with the president following the SGA's approval of the USSPA code of ethics, Antonelli was told that if the students didn't have enough sense not to want to read this kind of material then he would have to make the decision for them. It was at this meeting that Hammond again refused to sign checks for the newspaper as long as the Cleaver article was contained in the copy.

Fitchburg State, a small teacher's college of about 2,000 students, is under the Massachusetts Board of Education which has the power to set a mandatory student activity fee. The college president of each campus is charged with the responsibility for how the money will be spent. There are not student representatives on the Board which sets the student tax.

At Fitchburg, the college president has interpreted this state statute to mean that he should sign each check personally in addition to approving the Student Government's proposed budget. This is not the case on many of the other state college campuses where more responsibility is to determine how their money will be spent.

In related activity, the editors of five Massachusetts state college newspapers met in Salem Sunday, Oct. 5 to lay the ground work for a union of state college student newspaper editors, similar to one established last year by student government associations.

As a first step toward solidarity, the four papers beside Fitchburg who attended the meeting agreed to split the cost of at least one edition of the Fitchburg Cycle in order to inform students on that campus of the details surrounding the shut-down of their student paper.

Coffee House Plans Being Drawn Up

At an organizational meeting last Thursday, Dick Schwartz from the Social Committee outlined some general ideas for the set-up of a coffee house in half of the game room of Sanford Riley. Plans were arranged with the Shield to use this area and convert it to seat about 50 people. The committee also plans to have some people from the Art Museum come down and redecorate the area with the help of some students. Meanwhile the other committees-Furnishings-Entertainment-and Refreshments will be active deciding how to furnish the area, the entertainment to be scheduled, and the refreshments to be served. Dick stated the tentative opening for about the beginning of second semester, if enough students sign up and help. Possible hours the coffee house would be open would be from 7 - 12 p.m. Monday, Tuesday, Thursday, Friday, and Sunday, so as not to interfere with the Pub. In conclusion, Dick stated that there was a strong desire expressed on the part of the students for a coffee house and that now is the time to contact either him at 757-9927 or Pat Abbe at 753-7181 to sign up for a committee and help make the coffee house a success.

SIGMA PI HAS UMOC

In the recently held Ugly-Man-On-Campus elections Bruce Hillson was winner by a wide margin of the UMOC elections. Bruce will be awarded the top prize-a choice of a selection of watches - gold and silver-divers' and automatic in the upcoming assembly on Thursday, along with the runner-up, drawn from the ballots cast, who will receive a ten dollar gift certificate good at the bookstore. Proceeds from the election, sponsored by Alpha Phi Omega, the national service fraternity, totalled about $170 and will probably be donated to the Boy Scout Council.

MARINES INVADE TECH

Captain Lucas & SSGT Foster of the Marine Officer Selection Officer for the New England area are scheduled to visit Worcester Tech on 20, Nov. 69 to answer questions and discuss various officer programs available to qualified students.

The Platoon Leaders Class Program is available to the college undergraduate in ground and aviation fields leading towards a commission as Second Lieutenant in the Marine Corps Reserve upon graduation. Law and Graduate School Deferments are available to qualified PLC's upon graduation from college.

For college seniors and graduates with a Baccalaurate or higher degree, guarantees in data processing, supply, motor transport, engineering and aviation are available before enlistment to qualified applicants. Upon successful completion of Officer Candidate Course, candidates are commissioned as Second Lieutenants, U.S. Marine Corps Reserve.

For further information contact the Marine Officer Selection Office 200 Summer Street, Boston Massachusetts 02210.

WORCESTER TECH

will hold

What: a party-mixer which will be of special interest to all Jewish students

When: November 1, 1969 from 8 to 12 p.m.

Where: Collegiate Religious Center, 19 Schussler Rd.

Cost: 50¢

Refreshments will be served.

Musician Injured

Mr. Edwin J. "Eddie" Soares, a noted jazz musician who has played a number of concerts at Worcester Tech in the past two years, was seriously injured recently in a car accident.

Mr. Soares is now in "fair" condition at Morton Hospital, Taunton, where he was taken on October 17 after the car which he was driving left Route 44 in Rehoboth, Mass., and rolled down an embankment. Mr. Soares suffered a punctured lung and broken ribs and sustained a back injury.

The accident occurred about 2 a.m. when Mr. Soares was returning to Providence after playing a music job in Brockton. Mr. Soares was found in dense woods by police two hours later. Mr. Soares lives at 59 John Street, Providence.

Library Begins Film Series

On November 2, the Gordon Library will begin a Sunday evening film series called Experiment I. Each of the five programs will deal with a seperate topic. Subjects such as psychology, art, and race will be explored. The films are free, and open to anyone in the Worcester Tech Community. They will be shown on specific Sunday evenings at 7:00 p.m. in the Seminar Room of the library.

The title of the November 2 program is "Two Kinds of Madness." Two BBC-TV programs will be shown. First, A Plague on Your Children, is a disturbing investigation into chemical and biological warfare. The film attempts to show the necessity for public discussions in an area which has been surrounded with secrecy for so long.

The second film Pocomania. . . A Little Madness, gives the viewer a look at one of the strongest cult groups in Jamacia.

It is left to the judgement of the viewer to determine which of the films portrays the more madness.

Harriers Bounce Back.. Win Three

Boucing back from a prolonged losing streak, Tech's team of hustling harriers put their season's record over the 500 mark with a troika of fine victories over the forces of Brandeis, Merrimac, and Bentley.

On Wednesday Worcester vied Brandeis and Merrimac during the record-breaking cold and freezing rain which gripped the city. Brandeis took the first two spots but a fantastic team effort saw Tech take the third, fourth, sixth, seventh, eighth, and ninth spots. Merrimac was never a threat and the final score showed Tech on the long end of a 28-37-70 score. Mark Hoyt and Bill Light were the Engineers top men over the frost bitten course.

Saturday's race was almost a photo replay of Wednesday's encounter, minus the frigid weather. Bentley's fine runner, Walt Piezer romped to a lopsided individual victory but again Tech's squad finished virtually en masse to sew up another well-deserved win. "Mercury" Mike Malone jetted into the second spot while "marking" time right behind was Hoyt. Good effort by co-captains Dana "Lightening" Louth and Bill "the Burner" Light saw them finish in a dead heat for fourth. Tech's solid fifth man, Mark Savilis, ran another brilliant race finishing sixth. The final tally was Tech 20, Bentley 40.

This was the last home meet for the Engineers and with four meets remaining, the loss of the home course advantage could have a detrimental effect. All the harriers have to do is win two races out of the four to cinch a winning season, the first by Tech runners in around 20 years. It's for sure that the boys will be putting fourth their finest efforts in the next two weeks.

Stimulation Weekends

The American Management Association will sponsor a series of Simulation Weekends, special programs designed for college seniors interested in careers in professional management. The programs will be held from November until May during the 1969-1970 academic year at AMA's Management Center at Saranac Lake, New York.

Thirty-two students (two seniors from each of sixteen colleges and universities in the Northeast) will be accepted for each program. They will experience a portion of the AMA Management Internship Program through lectures, group discussions, simulations, and through interaction with professional managers and the young men and women who are the present MIP interns.

AMA provides complete accommodations at no cost to the students. However, students must provide their own trasportation to and from Saranac Lake. Seniors who have majored in any academic discipline may apply. For a program description and an application blank, write: Director, Simulation Weekends, AMA Management Center, Saranac Lake, New York 12983.

MARCH ON WASHINGTON

NOVEMBER 14 and 15

Bus leaves Tech Thursday night Nov. 13 and returns Saturday night, Nov. 15.

Cost: $10 Round Trip

If you are interested, leave a note in the Student Government mailbox in Boynton. (Include your address and phone number.)

Frosh Booters Nip Leicester J.C. 1-0

Saturday, the freshman soccer squad came out of it's slump to dump Leicester Junior College in a 1-0 contest.

The first three periods were scoreless, but Tech still controlled the ball most of the time. It seemed that the freshmen had trouble getting shots off, and at the end of the half the shot counts were low for both teams.

However, in the second half, the fired-up frosh came back with fifteen of their 21 shots, six in the third quarter and nine in the fourth. By this hammering away at the Leicester goal, and virtually keeping the ball in the opponent's territory, the frosh finally scored on a head by Bruce Kern, assisted by hustling Barry Blackaby.

Tech led in corner kicks, also, winding up with a total of eight, as compared to Leicester's two. The only statistic that was low was goalie saves. Due to constant second half pressure on the LJC goalkeeper, he finished with fourteen saves, to Greg Stamper's ten.

This was the team's fourth win of the season. On Oct. 15, the frosh took their only loss to date, in a well-played game against the UMass freshmen. And on Saturday Oct. 18, they played to a tie against Worcester Junior College.